

Fact Sheet



For Final Minor Modification Permitting Action Under 45CSR30 and Title V of the Clean Air Act

This Fact Sheet serves to address the changes specific to this Minor Modification, and shall be considered a supplement to the Fact Sheet corresponding with the Title V operating permit issued on July 9, 2012.

Permit Number: **R30-03900003-2012**
Application Received: **October 25, 2013**
Plant Identification Number: **03-54-039-00003**
Permittee: **Union Carbide Corporation**
(A Subsidiary of The Dow Chemical Company)
Facility Name: **South Charleston Facility**
Mailing Address: **PO Box 8361**
South Charleston, WV 25303

Permit Action Number: *MM02* Revised: *April 15, 2014*

Physical Location:	South Charleston, Kanawha County, West Virginia
UTM Coordinates:	439.67 km Easting • 4,246.72 km Northing • Zone 17
Directions:	I-64 West and take the Montrose Exit. Come down the road towards the river and proceed straight through the traffic light across MacCorkle Avenue directly into the South Charleston Facility.

Facility Description

Dow's Union Carbide facility produces a variety of specialty chemicals under SIC #2869. Their business units are grouped into the following classes:

Process

End Use

Polyvinyl Acetate

An intermediate that is used as chewing gum base

Specialty Surfactants

TRITON™ - Hard Surface Metal Cleaners, Emulsion Polymerization, Paints, and Coatings, Rinse Aids, Textile Processing, Degreasers, Industrial Laundry Applications, Car Wash Applications and Personal Care Applications

Oxide Adducts	The Oxide Adducts unit produces various Polyether Polyols used in surfactants, brake fluids, hydraulic and metal working fluids.
Chemical Mixing	Miscellaneous organic chemicals (e.g. mixing and blending of organic chemical raw materials with other substances)
Energy Systems & Pipeline/Environmental Operations	Site Utilities – e.g. steam, plant air/nitrogen, etc. Operations include water treatment plant, waste water flume/sump system, and ethylene oxide distribution.
Remediation Operations	Soil and groundwater corrective action
Infrastructure Operations	Maintenance Operations and Bulk Shipping/Receiving of raw materials and products

This minor modification is to install a groundwater/soil remediation system at the Chlorobenzene Remediation Area. The existing vapor treatment system will be used to treat soil vapor from the new remediation area. There are no proposed physical changes to system air pollution control devices (RTO/scrubber). The additional soil vapor increased the potential to emit of some R13-2840 permit limits. These changes were addressed in R13-2840A, issued on January 25, 2014.

Emissions Summary

Change in Plantwide Emissions [Tons per Year]	
Regulated Pollutants	Change in Potential Emissions
Volatile Organic Compounds (VOC)	+1.57
<i>PM₁₀ is a component of TSP.</i>	
Hazardous Air Pollutants	Change in Potential Emissions
TCE	+0.02
HCl	+1.58
Other HAPs	+1.21
Total HAPs	+2.81

Title V Program Applicability Basis

Due to this facility's potential to emit over 100 tons per year of VOCs, over 100 tons per year of NO_x, over 100 tons/yr of CO and PM₁₀, over 100 tons per year of SO₂, over 10 tons per year of a single HAP, and over 25 tons per year of aggregate HAPs, the permittee is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

The modification to this facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR6	Open burning prohibited.
	45CSR10	To Prevent and Control Particulate Air Pollution from the Emission of Sulfur Oxides.
	45CSR13	Class II Administrative Update
	45CSR30	Operating permit requirement.
State Only:	45CSR4	No objectionable odors

Each State and Federally-enforceable condition of the Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (<i>if any</i>)
R13-2840A	01/23/2014	

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table," which may be downloaded from DAQ's website.

Determinations and Justifications

The following changes were made with this permit modification:

- "Vapor Extraction—Chlorobenzene Area" (Emission Unit: CLBVE) was added to the emission units table, and condition 14.1.1 was updated to reference this new emission unit.
- The emission units table was updated for Emission Unit A42VE. The description now reads "Vapor Extractive System-Chlorohydrin Area (Area 42)" and a design capacity of 1,050 scfm was added.
- Condition 11.1.1 was revised requiring the Chlorobenzene Area Vapor Extractive System (CLBVE) to be routed to the Thermal Oxidizer (A42INC).
- Condition 11.1.3 was revised raising VOC emissions from 3.1 lb/hr to 3.46 lb/hr and 13.5 tpy to 15.07 tpy.
- The maximum emissions in condition 11.1.4 (Hazardous Air Pollutant emissions vented from the Packed Bed Scrubber A42PBS) were revised as follows:

Pollutant	Old Emissions		New Emissions	
	lb/hr	TPY	lb/hr	TPY
Trichloroethene	0.39	1.68	0.4	1.70
HCl	0.35	1.51	0.71	3.10
Other Organic HAPs	0.18	0.4	0.46	1.61
Total HAPs	2.8	11.75	3.44	14.56

- The VOC emissions limit from the RTO in condition 11.1.5 was raised from 3.1 to 3.46 lb/hr.
- The HCl emissions limit from the packed bed scrubber in condition 11.1.6 was raised from 0.35 to 0.71 lb/hr.
- Condition 11.2.1 was revised requiring initial testing of VOC emission rates to the atmosphere within 6 months of commencement of authorized activity. Testing activity will then be carried out according to the following table:

Test Results	Testing Frequency
< 50% of permit limit	Once per 12 months
≥ 50% of permit limit	Once per 6 months

Non-Applicability Determinations

The following requirements have been determined not to be applicable to the subject facility due to the following:

45CSR21—To Prevent and Control Air Pollution from The Emission of Volatile Organic Compounds: Emissions from sources listed in 45CSR§21-40.1.d shall not be included in the determination of maximum theoretical emissions for a facility (45CSR§21-40.1). Thermal incinerators having a destruction efficiency of 95% or greater are included in the sources listed in section 45CSR§21-40.1.d. The applicant is not subject to 45CSR21.

45CSR27—To Prevent and Control The Emissions of Toxic Air Pollutants: WVDAQ provided a non-applicability determination for 45CSR27 regarding this project in an e-mail from Steve Pursley of WVDAQ to Freddie Sizemore of UCC dated January 21, 2010.

40 CFR61, Subpart F—National Emission Standards for Vinyl Chloride: The permittee is not subject to Subpart F because it does not produce ethylene dichloride by reaction of oxygen and hydrogen chloride with ethylene. (40 C.F.R. § 61.60 (a)(1)).

40 CFR61, Subpart J—National Emission Standards for Equipment Leaks (Fugitive Emission Sources) of Benzene: The applicant is not subject to Subpart J because it does not meet the definition of “in benzene service”. The definition for “in benzene service” (40 C.F.R. § 61.111) means that a piece of equipment either contains or contacts a fluid (Liquid or gas) that is at least 10 percent benzene by weight as determined according to the provisions of 40 C.F.R. § 61.245(d).

Additionally, the definition of “process unit” in 40 C.F.R. § 61.241 means equipment assembled to produce a VHAP or its derivatives as intermediates or final products, or equipment assembled to use a VHAP in the production of a product. The remediation system is not comprised of equipment assembled to produce a volatile hazardous air pollutant (VHAP) or its derivatives as intermediates or final products, or equipment assembled to use a VHAP in the production of a product; as a result, it does not meet the definition of a “process unit” and does not meet the definition of “in benzene service”. The remediation system therefore does not meet the applicability of 40 C.F.R. § 61.110 (a) and is not subject to Subpart J.

40 CFR61, Subpart V—National Emission Standards for Equipment Leaks (Fugitive Emission Sources): The permittee is not subject to this subpart because the applicant is not subject to either Subpart F or Subpart J that would require compliance with Subpart V.

40 CFR 61, Subpart FF—National Emissions Standards for Benzene Waste Operations: The permittee is not subject to this subpart. Waste that is in the form of gases or vapors that is emitted from process fluids is exempt from the requirements of this subpart (40 C.F.R. §61.340(c)(1)).

40 CFR 63, Subpart GGGGG—National Emission Standards for Hazardous Air Pollutants: Site Remediation: The permittee is not subject to this subpart. According to the application, the proposed activities are conducted under RCRA corrective action program. The facility therefore qualifies for an exemption in accordance with 40 C.F.R. § 63.7881(b)(3).

Request for Variances or Alternatives

None.

Insignificant Activities

Insignificant emission unit(s) and activities are identified in the Title V application.

Comment Period

Beginning Date: N/A

Ending Date: N/A

Point of Contact

All written comments should be addressed to the following individual and office:

Rex Compston, P.E.
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0499 ext. 1209 • Fax: 304/926-0478
Rex.E.Compston@wv.gov

Procedure for Requesting Public Hearing

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Response to Comments (Statement of Basis)

Not applicable.